TECHNICAL STANDARDS AND THE AEROSPACE INDUSTRY

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Standards have been the basis for our accomplishments throughout the ages. They have been passed down from father to son, mother to daughter, teacher to pupil, older to younger worker, company to company, and industry to industry. Standards have also been the basis for the nation's accomplishments for more than 200 years. Both government and industry have long recognized the need to systematically document and utilize the knowledge gained from past experiences in order to avoid the repetition of failures and mishaps. Standards have formed the foundation for discoveries, inventions, improvements, textbooks, and the Aerospace Industry. The Professional Societies, AIAA, ASME, ASTM, IEEE, SAE, etc., along with DOD and NASA, have had for many years programs for the development of Technical Standards applicable to aerospace systems.

What are Standards? Standards are the result of experiences with people, nature, and the products of our labors. The experiences may be positive, as in successful tests or missions, or negative, as in a mishap or failure. A Standard must be significant in that it has a real or assumed impact on operations, valid in that it is technically correct, and applicable in that it addresses a specific design process or decision that mitigates or eliminates the potential for failures, or reinforces a positive result.

The documentation of Standards is important in order to convey information on experiences, technology developments, control recurrence, improve safety, enhance risk management, and facilitate improved interoperability. Thus, they are an important and critical resource that can be used by engineers, scientists, and technicians to support the design of flight and ground support hardware, software, facilities, and procedures.

As life becomes more complex, more guidance is needed. Standards are the documents that infuse this guidance throughout the social and engineering structures. The scope of Technical Standards includes standards, specifications, guidelines, recommended practices, and handbooks. Technical Standards are: (1) Systematic collections of proven guidance/methods/ requirements (frequently gleaned from our experiences) integrated into recommended practices, (2) Generally based on inputs from many activities combining the expertise of national or even international experts, and (3) The basic tools commonly used as the foundation for design, development, and operation processes. Technical Standards educate users, simplify information, and conserve experiences. They are essential tools in the interaction of people with their environment. They enable us to intelligently pass on knowledge and associated experiences for others to build upon. Technical Standards are a very logical way to communicate the information our Aerospace Industry needs to remain competitive nationally and internationally.

Why do we need standardization in the Aerospace Industry? In addition to the above reasons, one of the primary needs for Technical Standards in the Aerospace Industry is to ensure the Nation's competitiveness in the international arena. Not only do Technical Standards enable our domestic Aerospace Industry to work together in a more efficient and economical manner but they also enable the industry to be more competitive in their international enterprises. However, the key to enabling the accomplishment of this goal is the participation of Government Laboratory, Industry, and Professional Society members in Voluntary Consensus Standards Developing Programs.. It is only by this means that the experiences and accomplishments they have made will be documented and made available to others in the Aerospace Industry so they can achieve the necessary high goal of national efficiency and international competitiveness necessary for our Aerospace Industry to grow.